

SWETT & LEWIS
COMPANY
BOSTON
MASS

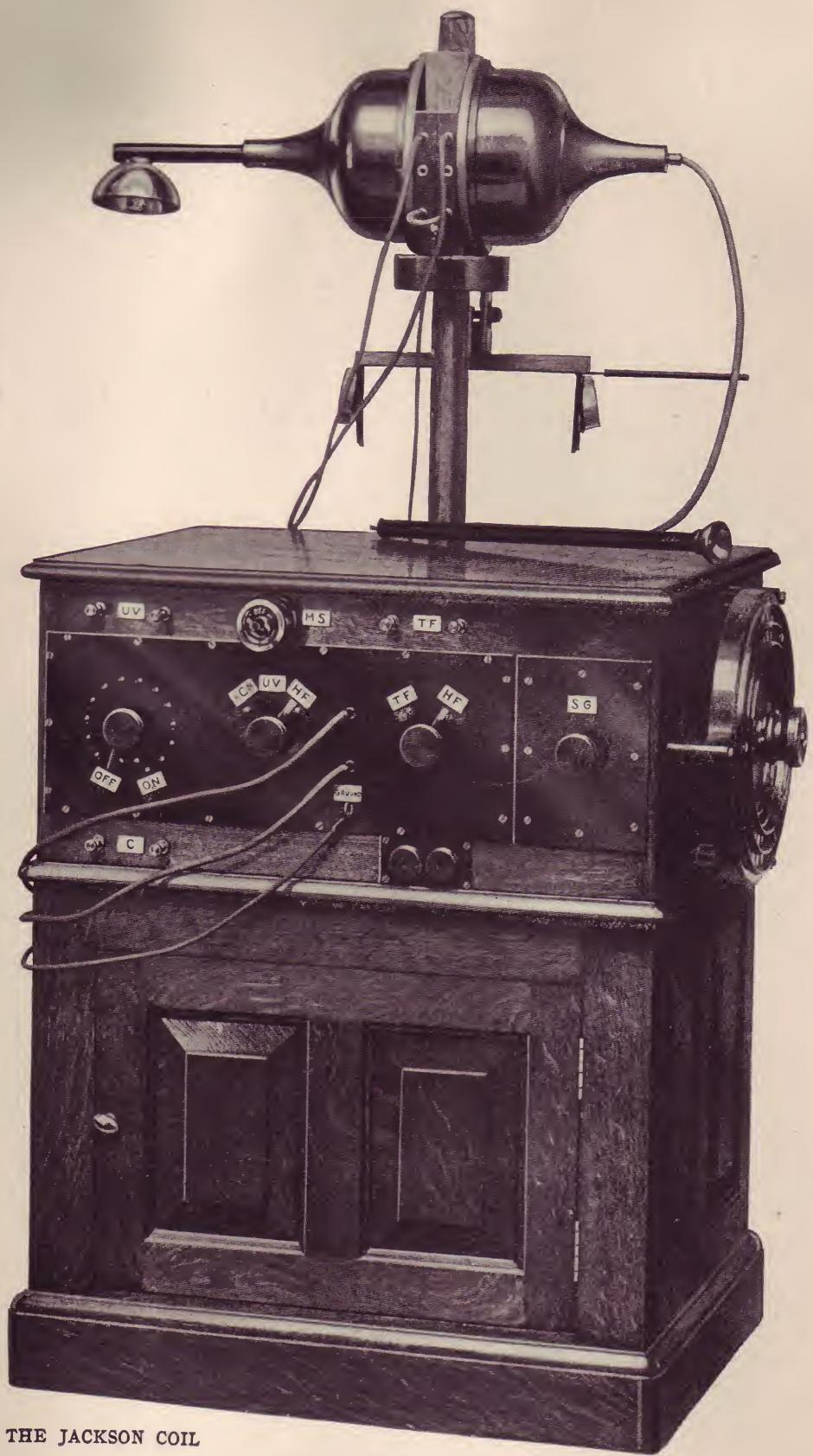


The Jackson High Frequency Coil

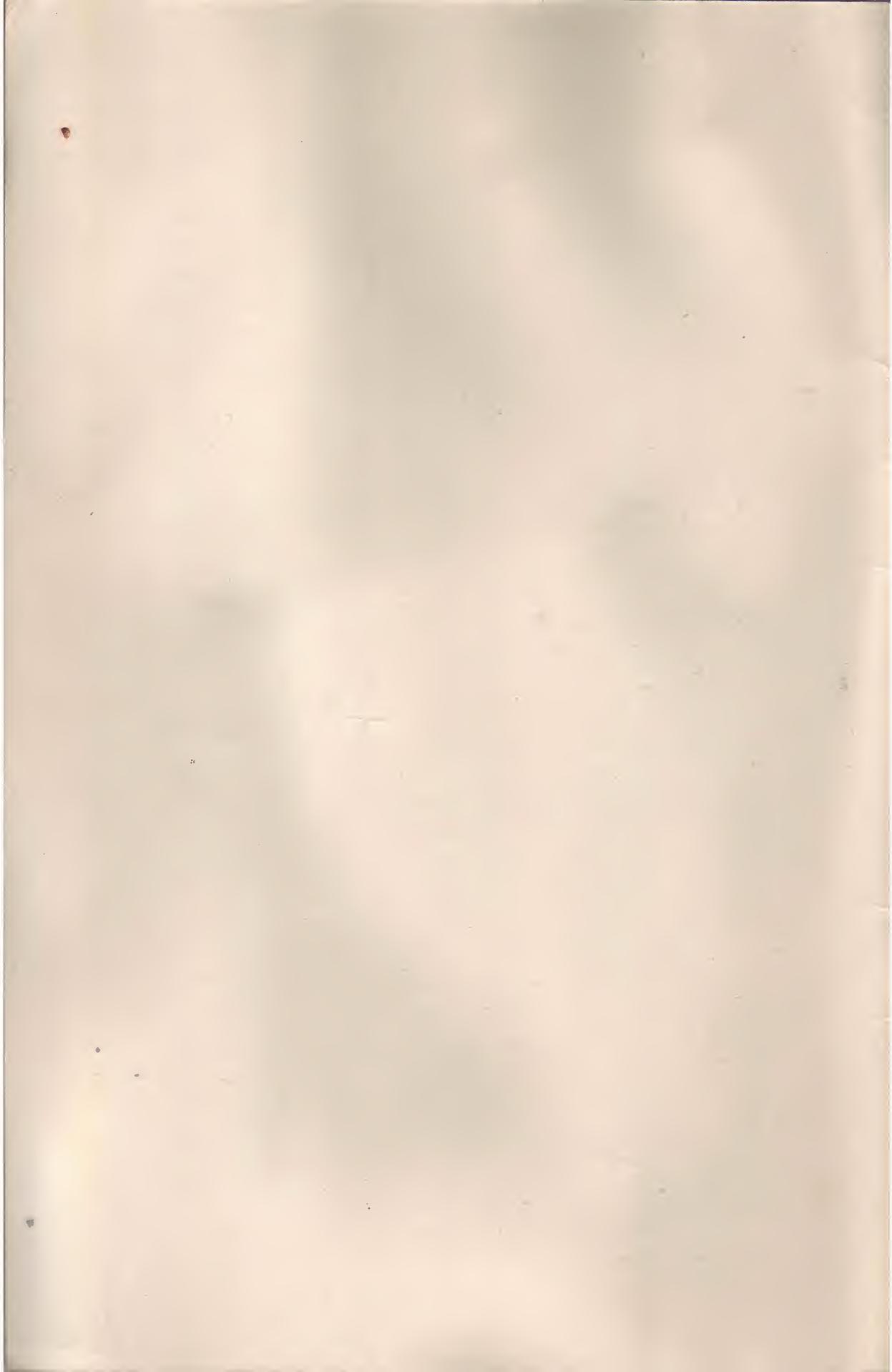
BULLETIN
THIRTY-FIVE

Swett and Lewis
Company
18 Boylston Street
Boston

C WE HOPE THAT THE UNIQUE DESIGNS
ON BOTH THE ENVELOPE AND COVER
OF THIS BULLETIN WILL CAUSE THE OB-
SERVER TO INVESTIGATE THE COIL WHOSE
AUTOGRAPH IS SHOWN. THESE PICTURES
WERE MADE BY THE DISCHARGE FROM
THE COIL COMING IN CONTACT WITH A
PHOTOGRAPHIC PLATE, AND SHOW THE
WIDE RANGE OF THE COIL TO WHICH WE
CALL YOUR ATTENTION IN THESE PAGES



THE JACKSON COIL



The Jackson Coil



To meet the demand for a High Frequency Coil from which the breeze current, similar to that from a Static, can be obtained, this Coil has been devised. It is the result of several years' experimental work on the part of the inventors, Messrs. Kinraide and Jackson, and is a development of the well-known Kinraide Coil, and much superior to it.

The Jackson Coil has no moving parts and the primary current is not interrupted. The fact of not having to deal with a complicated, dirty interrupter that always needs tinkering and petting will be appreciated by the busy physician. No interrupter has yet been made that will successfully handle currents of voltages commonly used in lighting service, without annoyance. Some possess one bad feature and some another, but those who have used several interrupters will agree that there are serious drawbacks to every one, and the expense of maintenance is not to be disregarded. It is a disagreeable task to clean an interrupter using mercury or acid, and even the replacing of platinum points is a serious expense. In this Coil there is nothing to wear out or over-heat, and when adjusted to give a certain current it will run for hours without any variation or attention whatever. As shown in the illustration, the apparatus is enclosed in a very handsome quartered oak cabinet resting on the floor, finished on all four sides, which makes it an ornament to any office. The top of the cabinet is perfectly plain. The switches and regulating devices are placed where they will be readily accessible, and everything is so constructed that no metal parts whatever project from the cabinet, making it impossible to receive an accidental shock. There is no delicate mechanism exposed. The Coil can easily be kept in the very best shape with a minimum amount of labor. All

"You
certainly
have
gotten
several
laps
ahead
of every
other
maker
of coils
in your
new
spark
gap,
which
does
work
beautifully."

the working parts of the coil proper are in the upper part of the cabinet, the top of which can readily be removed.

¶ The Coil is designed to run on an alternating circuit, and when a direct current only is available, a rotary converter is placed in the base of the cabinet and controlled from the outside. The converter is of the best design, of ample proportions, and capable of running for hours without attention, so that the apparatus is equally efficient on either circuit. When the Coil is run on the alternating service, the lower part of the cabinet is not needed, and may be used for the storage of tubes and other paraphernalia. If the direct current should be given in the daytime and alternating at night, or vice versa, a small switch would enable the Coil to be run at all times.

¶ A new feature of this Coil is the spark gap, which is the fundamental part of every high frequency or oscillating system. This has been developed on an entirely new plan and does not need any attention whatever. It is entirely out of sight and does not annoy the operator by light or noise, as in some forms of apparatus. It is placed in a small drawer or slide, so that it is instantly accessible, and cannot be replaced in any but the right way. It is the result of patient research and countless experiments, that were discontinued only after it was deemed certain that no further improvement could possibly be made. It is easily adjustable and the sparks flow across with absolute steadiness in any position. An entirely new method of cooling the electrodes is used, which is perfect in its action and requires no water or other outside aid. The sparking takes place between two prisms of ample length, which will last during months of continuous hard work. Each prism has four edges which may be used, and it is but the work of a moment to change them or put in new ones, which cost but little.

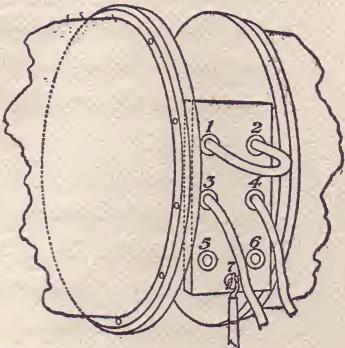
'The regulation for both X-Ray and high frequency is perfect.'

¶ The transformer used is of ample size to deliver a large current at a very high voltage, and is capable of standing the entire current direct from the street. A rheostat is used for purposes of regulation only. The condenser is simple, reliable, and will give no trouble.

¶ In view of the fact that currents of extreme high frequency and voltage cannot be transmitted through even a heavily insulated

conductor for a few feet without great loss, it has been deemed advisable to bring the final transformer, in the form of a pair of secondaries, close to the patient, instead of attempting to bring the patient up to the cabinet. These secondaries are mounted upon an attractive floor stand so that they may be readily adjusted at any convenient height, and are connected by means of a flexible cable to the cabinet. In the illustration of the Coil, this stand is shown directly behind the cabinet. The base is large and heavy enough to preclude the possibility of being over-balanced. By this arrangement, a very high frequency current of great volume may be delivered to the person of the patient with small loss. The current required to excite these secondaries is of such a character as to flow readily through a cable of moderate length, which can be handled with perfect safety, even when delivering the full output. A unique tube holder, capable of every adjustment, may be attached to the secondary stand at will, making an unexcelled device for X-Ray work. The tube holder may, when not in use, be turned down out of the way, as shown in the cut.

The secondaries proper are of the same design as those in the Kinraide Coil, a thin disc of fine wire embedded in an insulating compound and placed inside of a protecting case. This arrangement, with a ground wire, gives perfect protection from a breakdown or an accident. The full discharge can be grounded with no strain on the insulation, and the ground between the two secondaries does not diminish or interfere with the application of both secondaries to the patient. The multiple primaries in each of the secondaries are a new feature. These primaries are so arranged that, by means of a very simple switching device, three different combinations of primary are obtained as applied to each secondary coil, so that either secondary may be used independently or both together with any combination; thus giving a variety of effects with one instrument — never before approached — combined with the utmost simplicity. The current of the highest



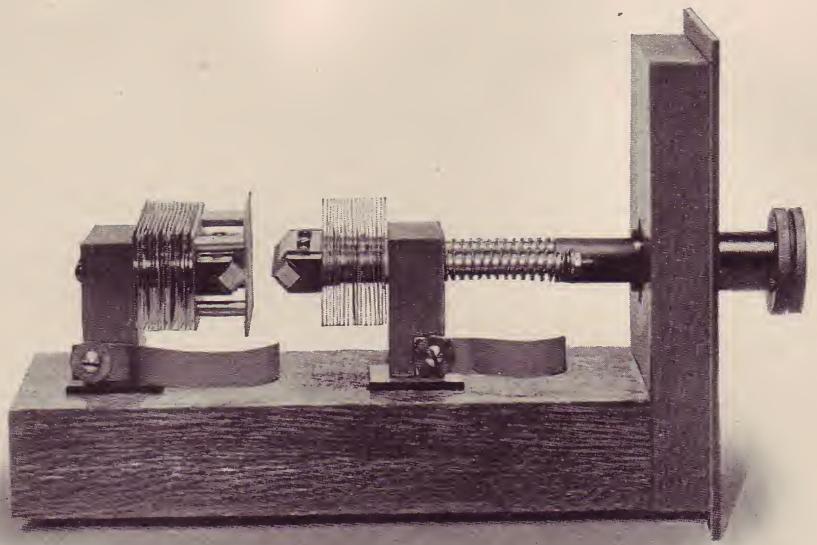


frequency is obtained from the primary of the fewest turns, combined with the shortest length of the spark gap. All of these combinations can be varied at will by means of a rheostat of fifty steps and the latest pattern, so that infinite delicacy of adjustment may be obtained. The current consumption of the Coil is small. Unlike most pieces of apparatus which take but a small amount of current to excite, the quantity of high frequency current generated is large, and the apparatus is of a high degree of efficiency.

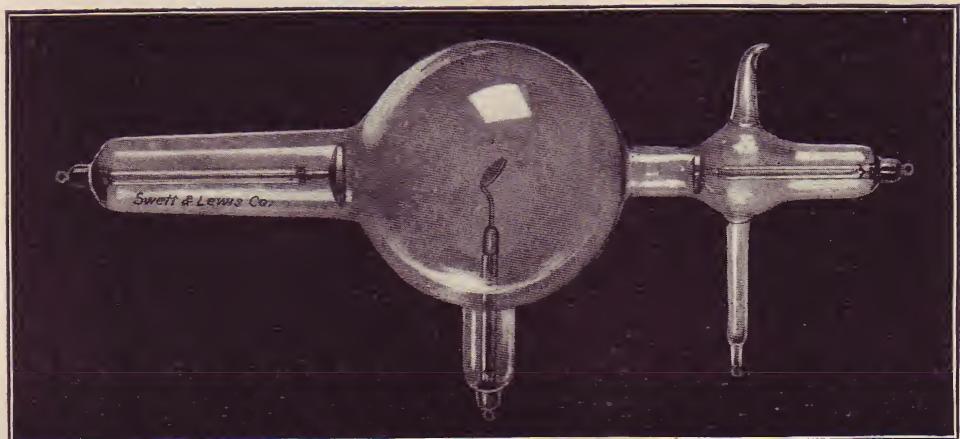
This Coil may be so manipulated as to produce a surprising variety in the discharge. A soft blue breeze can be obtained of long, feathery, fern-like, positive discharge, which will be given off in every direction. These are soft and attractive in appearance. Fierce spark rays may be generated, interspersed with pink, snaky flames. At times, the discharge from the secondary may be entirely positive and can be readily recognized. At other times, a purely negative discharge is given from the ball, each point of discharge being surmounted by a positive discharge drawn in from the surrounding air. The effects of positive or negative discharge produce quite a different sensation. These changes are due to the various frequencies readily obtained by the unique spark gap and possible with no other type of apparatus known.

Users of high frequency apparatus have demonstrated that some diseases yield more readily to currents of low frequency, some to currents of moderate, and still others to extremely high frequency. Owing to the great flexibility of this apparatus, it will be found to meet the requirements of all. The application of the current by means of vacuum electrodes is extremely easy, and the same effect can always be repeated by the same adjustments. New designs in metallic electrodes have been devised, which will give a splendid high frequency spray or spark at the end of a flexible cable. The brush discharge from the crown electrode is long and of the utmost fineness and smoothness, and of such a character that great latitude can be allowed in the treatment without accidentally sparking the patient. This point alone is of great value.

"The
volume
of
current
delivered
is
wonderful."



THE SPARK GAP



SPECIAL H. F. X-RAY TUBE



¶ The whole effort of the designers of this Coil has been to produce an easily manipulated apparatus, giving a wide range of effects, any one of which can be repeated at any time by the same adjustments, which are easily comprehended and remembered. Although the appearance of the cabinet is simple and convenient, yet the amount and variety of hard work that can be obtained from it at any time will put far in the background the most powerful Static machine, the large Rhumkorff Coil with its cumbersome high frequency attachment, and any Ultra Violet apparatus on the market, to say nothing of the cautery.

¶ We do not believe it is possible by any other means of construction to produce a Coil capable of giving such enormous voltages and frequencies without quickly destroying itself. The Coil has been given the most exhaustive and thorough tests, and has met every requirement imposed upon it by the most exacting.

Thermo = Faradic

¶ A unique feature, which we believe is found in this Coil only, is a Thermo-Faradic attachment; which, briefly stated, is a derived circuit from a closed coil of a certain proportion. The current is applied to the patient by means of either the well-known sponge electrodes or metallic handles, and can be widely varied by means of the spark gap and rheostat from a current markedly faradic in its characteristics and possessing great smoothness, to a current having no faradic effects and producing within the body a sensation of great heat; and that this is real heat locally generated is demonstrated by actual heating of the sponges, and by the sensations of the patient. If the metal electrodes from this circuit are brought in close proximity to each other, a small but brilliant arc is produced of such intense heat that actual welding of copper (on a small scale) may be made possible. If two strips of metal are attached to this Coil and are placed in a little water, it will soon become very hot. By placing both of the electrodes on or near the diseased area, the effect will be strictly local; or by separation,

"I am using the Thermo Faradic currents with good results in cases of neuralgia."

SWEIT AND LEWIS COMPANY

widely diffused. Sufficient current may be taken in this manner without discomfort to bring to full brilliancy a sixteen candle power lamp, when placed in the same circuit with the patient. These currents are of true high frequency, oscillating millions of times per second.

Ultra Violet Effects

Q Owing to the peculiar construction of the Coil, it is possible to produce powerful Ultra Violet effects. To do this, a special switch is put on the front of the cabinet, together with a pair of binding posts, and a lamp similar to the one furnished with the alternating current Kinraide Coil or the "Ultra" may be attached. This is an iron condenser arc and is fully described on pages 26, 27 and 28 of Bulletin 33. Ultra Violet rays are generated in great profusion, almost to the exclusion of all light rays. The lamp should be used in connection with a quartz compressor. For prices, see page 10.

Cautery Effects

Q A powerful cautery transformer may be incorporated in the cabinet at a slight additional cost. The transformer gives a very large quantity of current at so low a voltage that diagnostic lamps or cautery knives may be used with perfect safety. The control is perfect and the graduations are fine. This transformer is entirely separate from and has no connection with the high frequency Coil, and there is absolutely no chance of getting a high voltage through it.

"The
Static
spray
not
affected by
dampness
is what
we
have
been
looking
for."

X = Ray Tubes

Q This tube was designed specially for this Coil, and is a modification of the old Type H, used with the Kinraide Coil, and combined with the valve tube so called. The reversed waves are choked

back so that the hemispherical effect so familiar to Static users is produced. This tube should be a general favorite, as it is capable of very hard usage. It is recommended for all coils giving an alternating current. The tube is strongly built, the bulb of good size, and the terminals are well supported, so that they will not break down either in use or during transportation.

C We have no hesitation in saying that there is no apparatus more flexible or under more perfect control for operating an X-Ray tube, or for high frequency work. A Geissler tube can be excited so that it will glow to any degree of brilliancy, and this light will remain absolutely steady as long as required. The Coil will deliver such an amount of current as to be beyond the capacity of most X-Ray tubes, or so little that the smallest tube can be made to barely glow. In X-Ray practice, by means of the spark gap alone, the bones of the hand may be seen as almost transparent, or the whole hand itself may be made black, and this without change of vacuum in the tube.

C O D E W O R D S

52 volts, 7,200 Alternations	Koperig
104 volts, 7,200 Alternations	Kopernikus
110 volts, 7,200 Alternations	Koperkies
52 volts, 16,000 Alternations	Koperkleur
110 volts, 16,000 Alternations	Kopermolen
110 volts, 15,000 Alternations	Kopermunt
110 volts, Direct Current	Intardatum
220 volts, Direct Current	Intardetis
235 volts, Direct Current	Intarlando
250 volts, Direct Current	Intarlare
500 volts, Direct Current	Intarlato

"My
last
spark
gap
was
always
out of
order.
Have
had no
trouble
with
your
pattern."

G u a r a n t e e

C With each Coil furnished, a guarantee will be given against any defect in workmanship or material, or against burn-out not caused by improper usage, for one year from date of shipment.

SWERI AND LEWIS COMPANY

Price List

JACKSON HIGH FREQUENCY COIL, to run on any alternating current from 52 to 250 volts and any commercial cycle, complete as shown in cut, opposite page 2, including electrodes, stand and tube holder. Price, \$350.00
Code word, Heidengeld.

JACKSON HIGH FREQUENCY COIL for 110 volts direct current, as above, including motor generator Price, \$420.00
Code word, Headledge.

JACKSON HIGH FREQUENCY COIL for 220 volts direct current, as above, including motor generator Price, \$430.00
Code word, Heenkomen.

MOTOR GENERATOR including starting box, for 110 volts direct current, when sold without coil Price, \$70.00
Code word, Hervatting.

MOTOR GENERATOR including starting box, for 220 volts direct current, when sold without coil Price, \$80.00
Code word, Hervimos.

MOTOR GENERATOR including starting box, for 500 volts direct current, when sold without coil Price on application
Code word, Hervento.

CAUTERY TRANSFORMER, additional Price, \$25.00
Code word, Curtelasse.

CAUTERY HANDLE with snare Price, \$6.00
Code word, Curtem.

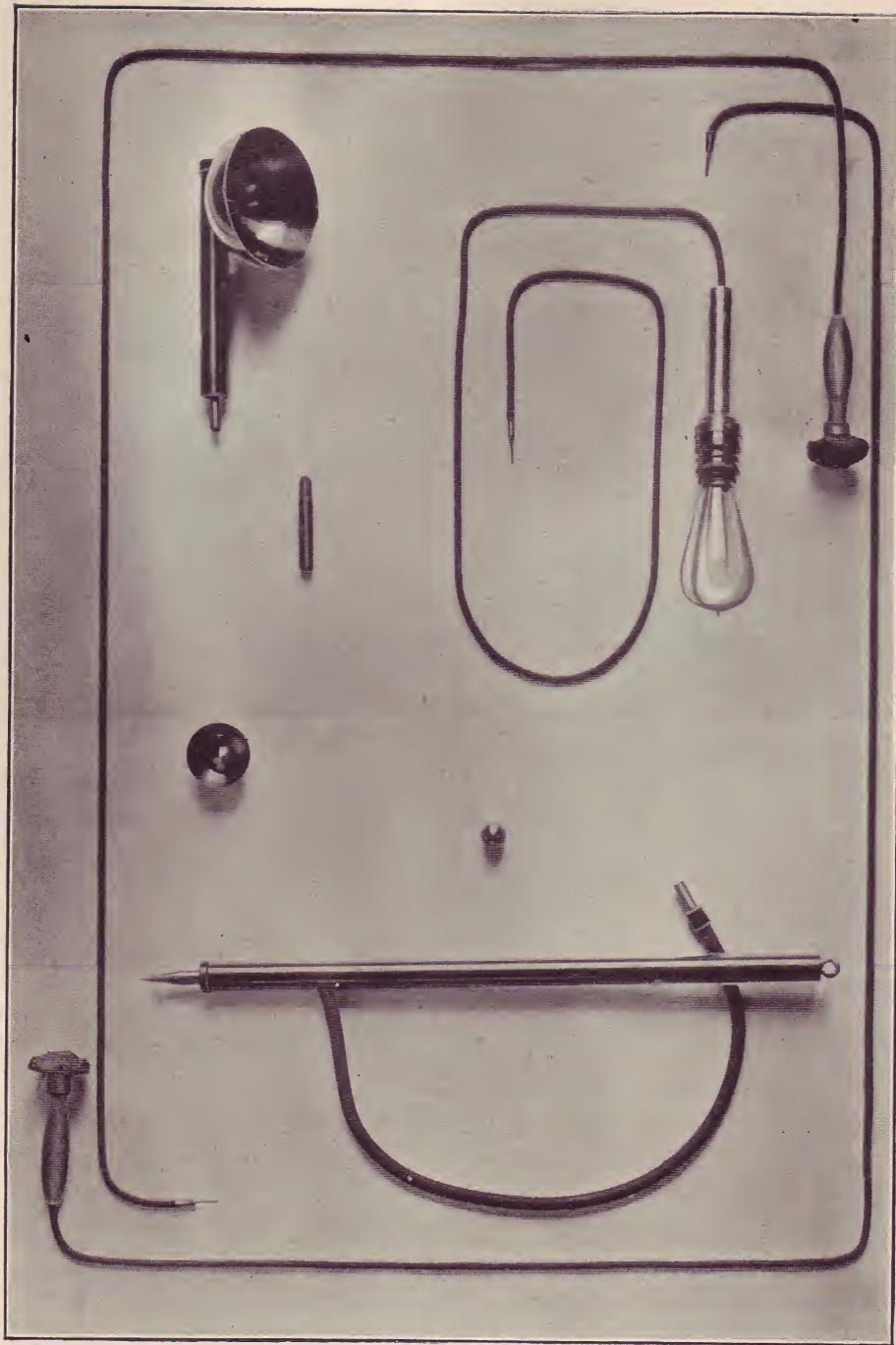
CAUTERY HANDLE, plain Price, \$1.50
Code word, Curtiamos.

CAUTERY CORDS, per pair Price, \$1.50
Code word, Curtidos.

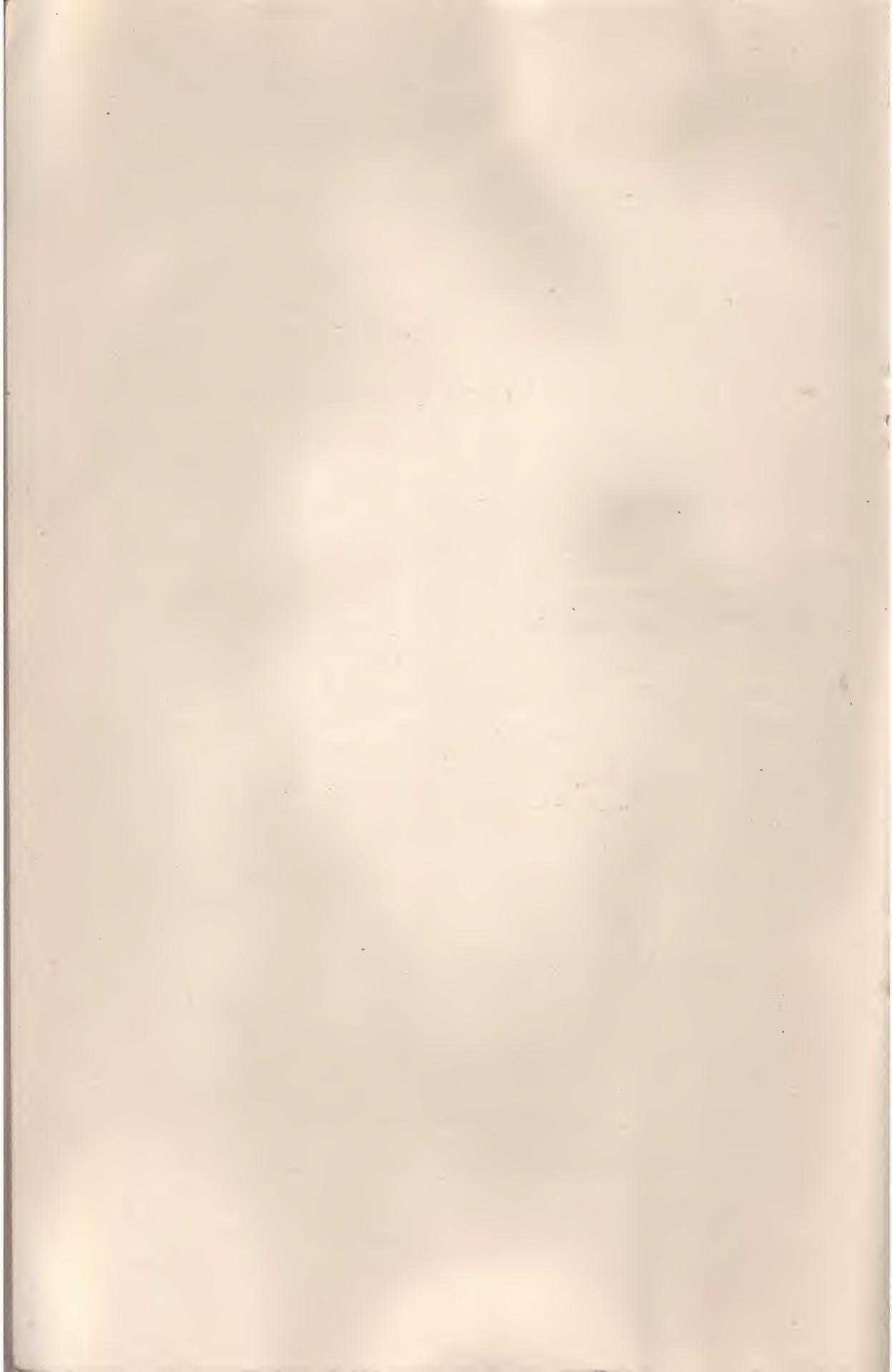
CAUTERY KNIVES, No. 1 to No. 8 Price, each \$0.75
See illustration opposite page 15.
Code word for set of eight, Curtilage.

ULTRA VIOLET ATTACHMENT, including lamp, cable and arm for tube stand Price, \$60.00
Code word, Conjunctum.

"This
spark
gap
does
NOT
keep
getting
out of
order
as my
last
one."



ELECTRODES



SWEET AND LEWIS COMPANY

COMPRESSOR with fine quartz lens Price, \$5.00
 Code word, Condate.

SET OF METALLIC HIGH FREQUENCY ELECTRODES, when sold separately Price, \$10.00
 Code word, Hervencia.

SET OF SIX GLASS VACUUM ELECTRODES with handle, Price, \$5.00
 Code word, Koukarien.

SPECIAL H. F. X-RAY TUBE, as shown opposite page 6. Price, \$14.00
 Code word, Depor.

MINERAL TUBES, to be used as electrodes, 20 inches long, very brilliant.
 Code word, Denuam. Price, each \$3.00

GEISSLER ELECTRODES, No. 17 and No. 18 filled with liquid, very highly colored. Price, each \$2.00. Special set of six assorted colors,
 Price, \$10.00
 Code word, No. 17, Kourgan; No. 18, Kourilien; set of six, Kozel.

WILLEMITE TUBE, small X-Ray tube with piece of willemite for anode, very handsome and brilliant Price, \$6.00
 Code word, Demptos.

BLOCK TIN for X-Ray shields, per pound, \$0.25. A strip thirty-six inches long by fifteen inches wide makes a pound.
 Code word, Blemmyer.

List of Outfits

OUTFIT NO. 60. For the alternating current.

Code word, Handlohn.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$ 350.00
One H. F. X-Ray Tube	14.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00
	<hr/>
	\$379.00

"Your spark gap is the right principle and does not require continual repairs."

OUTFIT NO. 61. For the 110 volts direct current.

Code word, Handlubben.

Same as enumerated in Outfit No. 60	\$379.00
One Motor Generator, complete, fitted in cabinet	70.00
	<hr/>
For 220 volts, add to above, \$10.00.	\$449.00

SWETT AND LEWIS COMPANY

OUTFIT NO. 62. For the alternating current.

Code word, Handlung.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00
One No. 17 and one No. 18 Electrode	4.00
Four pounds Block Tin	1.00
	<hr/>
	\$398.00

OUTFIT NO. 63. For the 110 volts direct current.

Code word, Handmagd.

Same as enumerated in Outfit No. 62	\$398.00
Motor Generator complete and fitted in cabinet	70.00
For 220 volts, add to above, \$10.00.	<hr/> \$468.00

OUTFIT NO. 64. For the alternating current.

Code word, Handmaiden.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 6 x 8 Platinum Barium Cyanide Fluoroscope	16.00
One set of Vacuum Electrodes with Handle	5.00
One set of six No. 17 and No. 18 Electrodes	10.00
One roll of Block Tin, 10 pounds	2.50
Two Mineral Tubes	6.00
One Willemite Tube	5.00
	<hr/>
"I am delighted with my new coil. Enclosed please find check.."	\$422.50

OUTFIT NO. 65. For the 110 volts direct current.

Code word, Handmandel.

Same as enumerated in Outfit No. 64	\$422.50
Motor Generator complete and fitted in cabinet	70.00
For 220 volts, add to above, \$10.00.	<hr/> \$492.50

SWETT AND LEWIS COMPANY

OUTFIT NO. 66. For the alternating current.

Code word, Handmesser.

One Jackson Coil, complete, including set of metallic electrodes and tube stand	\$350.00
Two H. F. X-Ray Tubes	28.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One set of Vacuum Electrodes with Handle	5.00
One set of six No. 17 and No. 18 Electrodes	10.00
One roll of Block Tin, 10 pounds	2.50
Two Mineral Tubes	6.00
One Willemite Tube	6.00
Cautery Attachment	25.00
One Handle and Snare	6.00
Eight Cautery Knives	6.00
Ultra Violet Attachment	60.00
One Quartz Compressor	5.00
	\$519.50

OUTFIT NO. 67. For the direct current.

Code word, Handmolen.

Same as enumerated in Outfit No. 66	\$519.50
One Motor Generator complete fitted in cabinet	70.00
For 220 volts, add to above, \$10.00.	\$589.50

¶ If the Ultra Violet Attachment is desired in addition to any of the above outfits, except No. 66 and No. 67, where it is included, add \$60.00, and for Cautery Transformer add \$25.00, also price of handle, knives and cords as desired. See page 10.

¶ The above outfits are given as samples only, and may be changed to suit the convenience of the purchaser.

¶ In ordering, use outfit number or code word. Be sure to specify the current on which the coil is to be used, and if alternating current, the number of alternations as well as the voltage. For list of code words for the various currents, see page 9. Example: if you wish to order outfit No. 62, coil to be used on a current of 104 volts, 7200 alternations, to be shipped by express, wire as follows:—Express Handlung Kopernikus.

"The Jackson Coil is a superb piece of apparatus and I am delighted with it."

SWETT AND LEWIS COMPANY

TERMS

- ¶ Prices in this bulletin are net, except where cash accompanies order, in which case a discount of 5 per cent will be allowed.
- ¶ In case of C. O. D. shipments, where a draft of 25 per cent of bill accompanies order, the same discount may be taken.
- ¶ Remit by express or post-office money order or by New York draft. Add twenty-five cents to face of all checks, except on New York or Boston, to cover collection charges.

REFERENCES

- ¶ Customers unknown to us must give satisfactory references, send draft with order, or we will ship C. O. D., charges for return of money to be borne by purchaser.
- ¶ Goods will be delivered f. o. b. freight or express, Boston, Mass. No charge for packing. Each piece of apparatus is carefully packed and no allowance will be made for loss or breakage in transit.
- ¶ Western Union Telegraph code used. Telegraph and cable address, "SwettXray."
- ¶ When in Boston, we shall be glad to have you make your headquarters at our office.

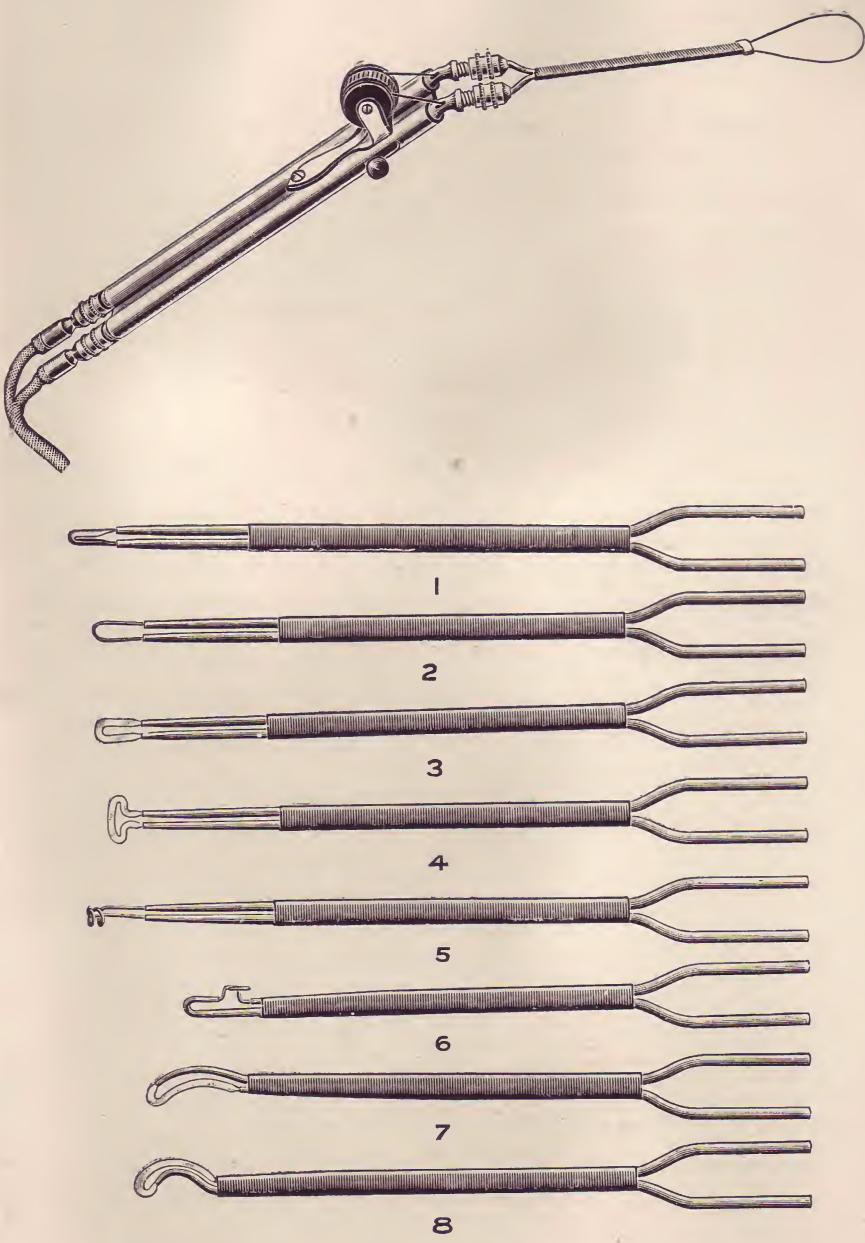
BULLETINS

- ¶ We should be glad to send the following bulletins to all interested. Other bulletins are out of date.

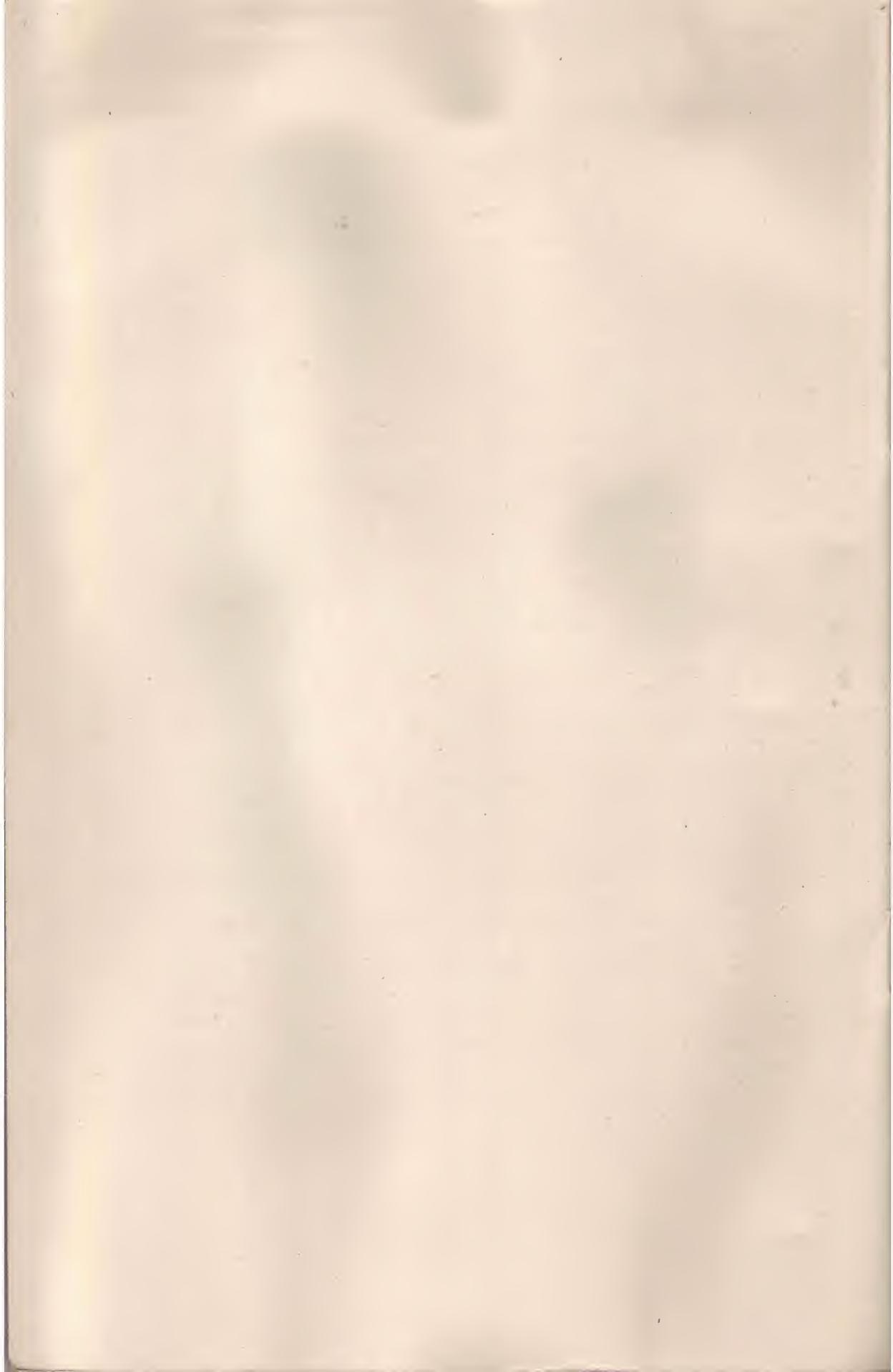
"I consider the new Jackson Coil the most complete and satisfactory."

- Number Twenty-eight, Kinraide Coil and Accessories
- Number Thirty, Directions for Operating Kinraide Coil
- Number Thirty-two, Electrical Novelties
- Number Thirty-three, Coils and X-Ray Tubes
- Number Thirty-five, this one

- ¶ For a good, powerful, thoroughly reliable, as well as a cheap X-Ray Coil, we heartily recommend the Kinraide for your consideration. Bulletin 33 illustrates and describes this coil as well as X-Ray tubes and supplies in general, and will be sent on request.



CAUTERY KNIVES



The Kinraide Coil

¶ For those who do not wish to invest much money but yet want a good, strong, serviceable and durable coil which will do good X-Ray work, this Coil is recommended. It delivers a high frequency current that may be used to good advantage by means of the vacuum electrodes.

¶ It may be furnished plain or with the ultra violet attachment as desired. This attachment can be used only with the alternating current coils.

¶ For full particulars concerning this Coil, see Bulletin 33.

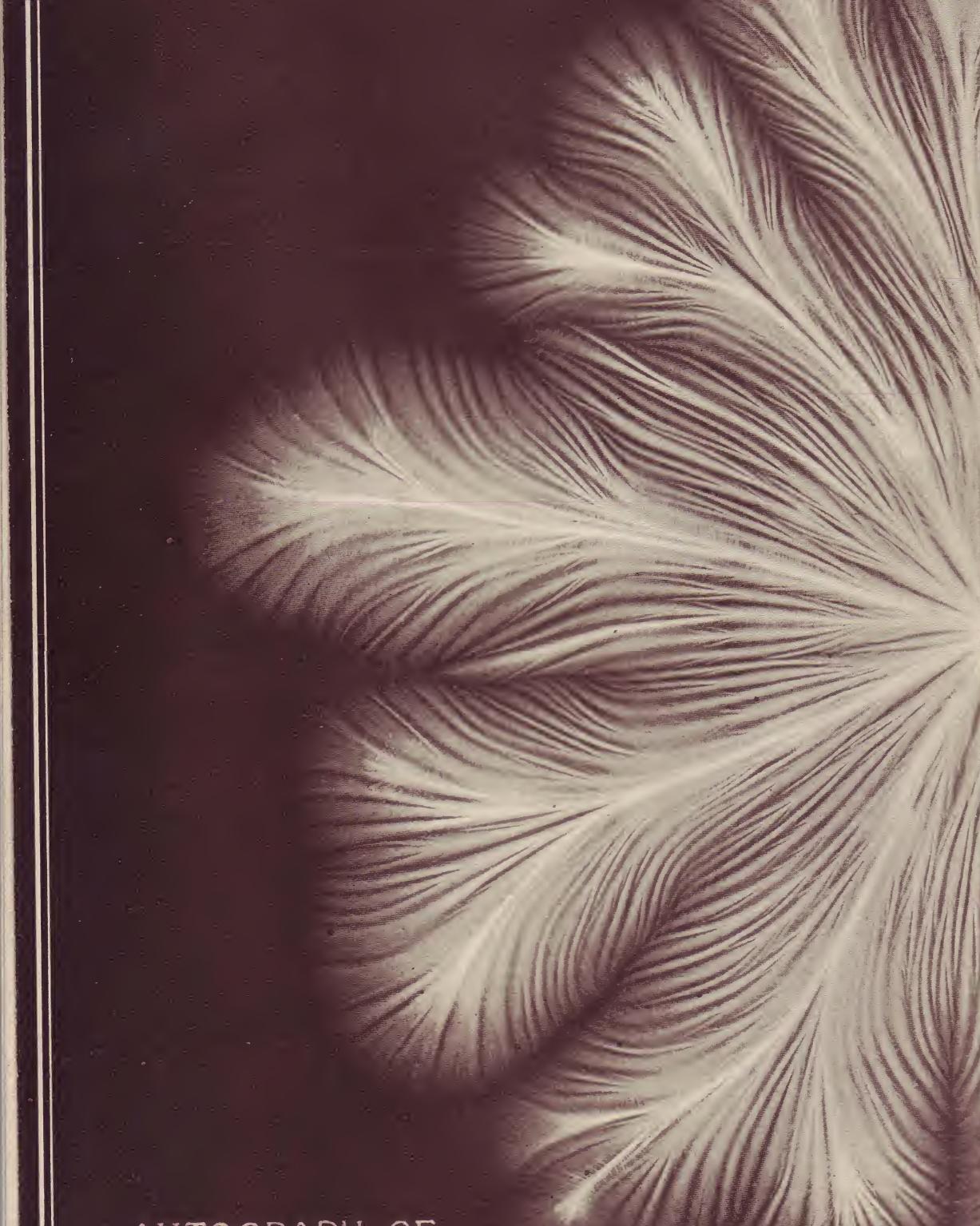
OUTFIT NO. 52. For direct current.
Code word, Epidrome.

One direct current Kinraide Coil	\$130.00
Two Tubes, Type K	24.00
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00
One Rheostat	8.00
One Floor Tube Stand	10.00
Four pounds of Block Tin	1.00
One pair of Spark Regulators	4.00
One set of six Vacuum Electrodes	5.00
	\$192.00

OUTFIT NO. 53. For alternating current.
Code word, Epieront.

One alternating current Kinraide Coil	\$130.00	"My new coil is working beautifully. The effect of the spark is equal to that of a Static."
Two Tubes, Type H	28.00	
One 5 x 7 Platinum Barium Cyanide Fluoroscope	10.00	
One Rheostat	8.00	
One Floor Tube Stand	10.00	
Four pounds of Block Tin	1.00	
One pair of Spark Regulators	4.00	
One set of six Vacuum Electrodes	5.00	
	\$196.00	

Press of Murray and
Emery Company, Boston



AUTOGRAPH OF
THE JACKSON COIL.



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THE JACKSON COIL.